

Clinical Observations

Clinical Observations on Curative Effect of TCM Massage on Dyssomnia of Infants

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Objective: To observe the curative effect of TCM massage on difficulty in falling asleep, waking during night and other sleep disorder of infants.

Methods: The 51 outpatients were treated by basic recipe for massage treatment and modified recipe according to syndromes.

Results: The total Athens Insomnia Scale (AIS) score 3.2800 ± 1.5784 after treatment is lower than 9.2400 ± 1.4286 before treatment ($P < 0.01$), there is statistical difference in AIS scores before and after treatment.

Conclusion: TCM massage can remarkably improve sleep condition of infants with dyssomnia.

Keywords: dyssomnia; infants; tuina-massage

Dyssomnia means that infants can not sleep normally in environment suitable for sleep. The disease, mainly manifested in difficulty in falling asleep and maintaining sleep, early waking and no feeling of recovery after sleep, can cause somatic dysfunction and discomfort and is very often seen in childhood.¹ The result of a random survey on sleep condition of infants aged 2–12 years in 8 Chinese cities shows that the total incidence of infant sleep disorder is 27.11%.² Research data show that widespread influence of sleep disorder on health, behavior and emotion of infants has drawn attention from medical circle.^{3,4} The definite curative effect and convenient manipulation of TCM massage used by the authors to treat dyssomnia of infants have been welcomed. The report is as follows.

MATERIAL AND METHODS

Standards of Diagnosis and Inclusion

In reference to a proposal raised by American Sleep Disorders Association (ASDA) and Psychiatry on Children and Teenagers, dyssomnia is manifested in 1) difficulty in falling asleep, meaning that the time from going to bed to falling asleep is more than 30 minutes; 2) restlessness in sleep, meaning that infants easily wake and cry in night at least 2 times with the waking time over 40 minutes in all; 3) inadequate sleeping time, meaning that sleeping time is lower than the lowest level

of infants in the same age; and 4) physical disease and psychonosema excluded.^{3,4} Dyssomnia occurs at least 3 times a week and lasts more than 1 month.

General Data

Among 51 outpatients conforming to the above-mentioned diagnostic standard at Tianjin hospital of splenico-gastric disease from January 2006 to October 2009 there were 32 males and 19 females aged 4–35 months, 16.51 ± 9.33 months on average.

Therapeutic Method

1) Basic recipe for massage treatment: a) Kai Tianme means that the practitioner pushes his 2 thumbs alternatively from Yintang (EX-HN3) upward to Shenting (GV 24) for 60 times and massages the 2 points for 30 seconds each time respectively. b) Fentui Kangong means that the practitioner pushes his 2 thumbs from the inner end to the outer end of the eyebrow for 60 times and massages Zanzhu (BL 2), Yuyao (EX-HN4) and Sizhukong (TE 23) for 30 seconds each time respectively. c) The practitioner rubs his palms until a hot feeling is produced and gently massages the belly with the hot palms for 5–8 minutes until a local hot sensation is achieved. d) The practitioner alternatively kneads muscles of sacrococcygeal region from Changqiang (GV 1) upward to Dazhui (GV 14) with the thumb, index finger and middle finger of his 2 hands for 8–10 times

until a local flush is obtained.

2) Syndrome recipe: a) For the type of spleen deficiency, the Spleen Channel should be additionally massaged for 200–300 times, and the belly is massaged with Zhongwan (CV 12) as the center until a local hot sensation is achieved. b) For the type of accumulative heat in the heart channel, the point Xiaotianxin is additionally massaged for 200–300 times. c) For the type of gallbladder-qi deficiency, Xinshu (BL 15) and Danshu (BL 19) are additionally massaged for 30 minutes respectively. d) For the type of dyspepsia, the point Banmen and Zusanli (ST 36) are additionally massaged for 30 seconds respectively. The treatment is carried out once every other day for 15–20 seconds each time.

Standard for Evaluation

Sleep condition is evaluated in reference to AIS filled in

by parents before and after treatment.⁷ Main items under observation are time of falling asleep, waking in night, waking earlier than parents expected, the total sleeping time, sleeping quality and emotion during daytime. Each item is scored as 0–3 to evaluate sleep condition. The higher the score is, the worse the sleeping quality will be. Contrast analysis is carried out statistically before and after massage for 5 times.

Statistical Method

All the data are processed with SPSS10.0 software. Paired rank test is used to compare the AIS scores for each item before and after treatment.

RESULTS

The AIS scores for each item before and after treatment are shown in the following table.

Table 1. Comparison of AIS scores for each item before and after treatment ($\bar{x} \pm s$)

Items under observation	AIS score		Z	P
	Before treatment	After treatment		
Time of falling asleep	0.6400±0.8271	0.2200±0.5067	4.031	<0.01
Waking in night	2.1800±0.7743	0.6800±0.6207	5.961	<0.01
Waking earlier than parents expected	0.5800±0.4986	0.1000±0.3031	4.899	<0.01
Total sleeping time	2.3200±0.5869	0.8400±0.6181	5.864	<0.01
Sleeping quality	2.6400±0.5979	1.0200±0.7690	5.962	<0.01
Emotion during daytime	0.8400±0.7103	0.4200±0.5746	3.202	<0.01
Total AIS score	9.2400±1.4286	3.2800±1.5784	6.176	<0.01

Notes: Paired rank test shows that there is statistical difference in AIS scores for each item. The score after treatment is lower than that before treatment, indicating that sleeping condition has obviously improved.

The total AIS score 3.2800 ± 1.5784 after treatment is lower than 9.2400 ± 1.4286 before treatment ($P < 0.01$), showing that sleep condition has remarkably improved. Reduction in the scores for the time of falling asleep, waking in night and early waking shows the decrease in the time of falling asleep and waking in night and obvious increase in effective sleeping time. Decrease in the scores for the total sleeping time and sleeping quality indicates that actual sleeping time and sleeping efficiency increase. Adequate sleep makes emotion good and indigestion, poor appetite, irregular defecation and unrest emotion gradually lightened or disappeared.

DISCUSSION

In many researches at home and abroad in recent years, infant dyssomnia has been generally treated with psychological comfort, behavior therapy, environmental

regulation and medication.⁸ Although most parents use behavior therapy or psychological comfort to enable their infants to fall asleep, a lot of time and energy are spent, making patients anxious and restless. Because the effectiveness and safety of medication mainly for hypnogenesis and sedation on infants remain to be studied, the overwhelming majority of parents are unwilling to accept such a medication.⁹ With a long history, definite curative effect, comfort, no pain and no side effect, TCM massage is easily accepted by infants and their parents.

TCM holds that infant dyssomnia mainly due to congenital defect and lack of proper care after birth causes dysfunction of *zangfu* organs and imbalance between *yin* and *yang*. To regulate *yin* and *yang* should be regarded as the principle for the treatment of

dyssomnia with TCM massage. Kai Tianmen and Fentui Kangong are of remarkably sedative effect.^{10,11} Gentle massage is easily accepted by infants. Massaging the belly and kneading muscles along the spine can balance *yin* and *yang*. Modern clinical researches show that massaging the belly and kneading muscles along the spine can regulate gastrointestinal function and influence the expression of brain gut peptide.¹²⁻¹⁴ Therefore, massaging the belly can stimulate nervous system of intestine and regulate brain gut peptide to adjust sleep and improve clinical symptoms. Clinical observation shows that infant dyssomnia is often accompanied by poor appetite, irregular defecation, unstable emotion and other clinical symptoms. Massaging Spleen Channel, Xiaotianxin and Banmen to regulate the function of relative *zangfu* organs is a special method of TCM massage. After massage, all the AIS scores decrease, the time of falling asleep shortens, the times of waking in night remarkably reduce, the time of effective sleep increases, the sleeping condition obviously improves, and the accompanying symptoms gradually lighten and disappear. TCM massage has a unique superiority in treating infant dyssomnia.

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(Received June 7, 2010)